

CLAIMS:

1. (Currently amended) A screw and rod fixation assembly for fixing a screw and a rod comprising:

a screw including a screw head;

fixing means including an inner passageway for receiving said screw therethrough for automatically, compressively fixing said screw from movement relative to said fixing means, assembly, said fixing means including an inner surface wall having a gripping portion for compressively gripping said screw head and a non-gripping portion allowing passage of the screw head to said gripping portion;

a substantially annular ring including an edge portion extending about a centered axis, said edge portion having a frustoconical surface tapering outwardly toward said edge portion for engaging said screw head while allowing a portion of said screw to pass therethrough;

rod seating means operatively engaged with said fixing means for seating a rod therein including at least one flexible portion capable of being compressed against a rod seated within said rod seating means, wherein said at least one flexible portion has a tapered outer surface end; and

locking means for securing and engaging the rod and rod seating means including at least one flexible portion, said locking means including deflecting means for deflecting said at least one flexible portion of the rod seating means against and around the rod as said locking means further engages said at least one flexible portion of said rod seating means.

2. (Original) The screw and rod fixation assembly according to claim 1, wherein said fixing means includes a substantially tubular body.

3. (Original) The screw and rod fixation assembly according to claim 2, wherein said substantially tubular body further includes spaced, substantially parallel arms extending from said substantially tubular body.

4. (Original) The screw and rod fixation assembly according to claim 1, wherein said gripping portion of said inner surface wall of said fixing means is expanded within an elastic range of said inner surface wall by said screw head.

5. (Original) The screw and rod fixation assembly according to claim 1, wherein a portion of said inner surface wall of said fixing means is threaded.

6. (Original) The screw and rod fixation assembly according to claim 1, wherein said rod seating means includes a body portion from which at least one said flexible portion extends therefrom.

7. (Original) The screw and rod fixation assembly according to claim 1, wherein said locking means is defined as a set screw including a threaded outer surface for operatively engaging said threaded inner surface of said fixing means.

8. (Original) The screw and rod fixation assembly according to claim 7, wherein said set screw further includes a spherical, inner chamber for accommodating said at least one flexible portion when said at least one flexible portion is contoured around the rod situated therein.

9. (Currently amended) A screw fixation device comprising fixing means including an inner passageway for receiving said screw therethrough for selectively fixing a screw head, said fixing means including an inner surface wall having a gripping portion for compressively gripping said screw head and a non-gripping portion allowing passage of the screw head to said gripping portion, thereby fixedly gripping the screw head.

10. (Original) The screw fixation device according to claim 9, wherein said gripping portion of said inner surface wall is expanded by the screw head within an elastic range by the screw head.

11. (Original) The screw fixation device according to claim 9, wherein said fixing means includes a substantially tubular body.

12. (Original) The screw fixation device according to claim 11, wherein said substantially tubular body includes spaced, substantially parallel arms extending from said substantially tubular body.

13. (Original) The screw fixation device according to claim 11, wherein said substantially tubular body has a proximal end and a distal end, wherein said distal end is interiorly tapered for securing the screw head therein.

14. (Original) The screw fixation device according to claim 11, wherein said substantially tubular body has at least one aperture extending radially through said inner surface wall.

15. (Original) The screw fixation device according to claim 9, wherein a portion of said inner surface wall is threaded.

16. (Original) The screw fixation device according to claim 9, wherein said fixing means is made from semi-flexible material selected from the group consisting of metal, plastics, alloys, polymers, fibers, and combinations thereof.

17. (Currently amended) An apparatus for fixedly gripping and securing a screw head comprising a passageway including side-walls and inherent locking means for automatically, compressively gripping and locking the screw head as the screw head enters through said passageway and into said locking means.

18. (Original) The apparatus according 17, wherein said passageway includes a substantially tubular body.

19. (Original) The apparatus according to claim 17, wherein said locking means is defined as a semi-flexible portion of said sidewall.

20. (Original) A rod receiving device comprising rod seating means for seating a rod therein including at least one flexible portion capable of being compressed against a rod seated within said rod seating means, wherein said flexible portion has a tapered outer surface end.

21. (Original) The rod receiving device according to claim 20, wherein said rod seating means includes a body portion from which said at least one flexible portion extends therefrom.

22. (Canceled).

23. (Original) A locking member for securing and engaging a rod and rod seating means including at least one flexible portion, said locking member including deflecting means for deflecting the at least one flexible portion of the rod seating means against and around the rod as said locking member further engages the at least one flexible portion of the rod seating means.

24. (Previously presented) The locking member according to claim 23 wherein said locking member is a set screw including a threaded outer surface.

25. (Original) The locking member according to claim 23, wherein said set screw further includes a spherical, inner chamber for accommodating at least one flexible portion of the rod seating means.

26. (Previously presented) The locking member according to claim 24, wherein said set screw further includes a tapered, inner chamber for accommodating at least one flexible portion of the rod seating means.

27. (Currently amended) A substantially annular ring for insertion into the screw and rod fixation assembly of claim 1 comprising an edge portion extending about a centered axis, said edge portion having a frustoconical surface tapering outwardly toward said edge portion for automatically, compressively engaging and gripping a screw head while allowing a portion of the screw to pass therethrough.

28. (Original) The substantially annular ring according to claim 27, wherein said edge portion includes a gap portion.

29-30 (Canceled).

31. (Currently amended) A screw and rod fixation assembly for fixing a screw and a rod comprising:

a screw including a head portion;

fixing means for automatically, compressively fixing said screw from movement relative to said assembly, said fixing means including an inner surface wall having a semi-flexible gripping portion and a non-gripping portion;

rod seating means operatively engaged with said fixing means for seating a rod therein including at least one flexible portion capable of being compressed against a rod seating within said rod seating means; and

locking means for securing and engaging the rod seating means including at least one flexible portion, said locking means including deflecting means for deflecting said at least one flexible portion of said rod seating means against and around the rod as said locking means engages said at least one flexible portion of said rod seating means.